

REMARKS

The disclosure was objected to for informalities. The specification has been amended to correct the misspelling of the word "hydroxypropylated" on page 9, lines 28 and 29 and page 10, lines 1 and 4-6. Misspelling of the word "heated" on page 13, line 18 has also been corrected. The disclosure was also objected to for improper trademark usage. The use of the trademarks KELCOGEL, AEROSIL and AVICEL on pages 10 and 11 have been corrected by putting all such marks in full capital letters. Terminology identifying the goods for each trademark was already presented in the specification of page 10, lines 7 to 13.

In view of the above noted changes to the specification, it is believed that the objection to the disclosure has been overcome.

The claims have been amended to more particularly define the invention as a soft shell capsule having high acyl gellan gum and low acyl gellan gum content as defined. Basis for these changes are as follows. For soft shell capsules in the specification on page 1, l.10; page 2, l.10; page 8, l. 25; page 9, l. 9; Example 5 and the abstract, l.6. The high and low acyl gellan content is found in the specification on page 3, l. 8 to 14 and original claims 2 and 3. Basis for new claim 26 is found on page 6, l. 1 and 2. Other changes to the claims involved combining previous dependent claims and canceling redundant claims.

The invention of this application is directed to soft shell capsules formed from a composition comprising starch, plasticizer and a particular combination of high acyl gellan gum and low acyl gellan gum. This defined composition forms films having excellent properties of high modulus, strength and elongation and further forms soft shell capsules having good sealability and strength. Not all hydrocolloids will impart a setting ability to different starch compositions. Besides forming a film, the composition must be suitable for forming soft shell capsules that have good sealability and sufficient burst strength. The gellan gums, i.e. high and low acyl, are significantly different in their properties. Sealability of the capsule is compromised if the low acyl gellan gum content is too high. Accordingly, it is not a case of simply blending the high acyl and low acyl gellan gums.

Claims 1-19 and 23-25 were rejected under 35 USC 103 (a) as being unpatentable over Gilleland et al (US 6,375,981) in view of Winston et al (US 5,342,626) further in view of Chang et al (US 5,190,927). This rejection is respectfully traversed for the following reasons.

Gilleland et al disclose a film forming composition comprising selected starch derivatives, a plasticizer and hydrocolloid gum. The hydrocolloid gum as noted in Gilleland in col. 2, lines 12 to 16 and again in col. 4, lines 40 to 42 may suitably be selected from a variety of gums including carrageenan, locust bean gum, xanthan gum, gellan gum, agar, alginates, guar gum, gum Arabic and pectin. The Examiner further acknowledges that Gilleland does not teach high acyl gellan gum and low acyl gellan gum. Quite clearly Gilleland et al do not disclose or suggest the specific combination of high acyl gellan gum and low acyl gellan gum as found in the claims of this application.

Winston et al teach a polymer composition of gellan, carrageenan and mannan gums for use in forming gelatin-free capsules. The reference is involved in a starch free polymer composition. While Winston et al do refer to the use of high acetyl gellan gum and low acetyl gellan gum, this is as the gellan component of a specific tri-gum blend (i.e. including gellan, carrageenan and mannan gums). This composition is different from the modified starch composition of Gilleland et al and there is no suggestion of combining or how to combine with Winston et al to suggest the claimed soft shell capsule comprising the composition blend of starch, plasticizer and two acyl gellan gums (one with high acyl content and one with low acyl content).

Chang et al (US 5,190,927) disclose partially deacylated gellan and the method of preparation. The deacylated gum comprises between 0% and less than about 1% acetyl groups and about 3-12% glyceryl groups. This is in effect a low acyl gellan gum. There is no suggestion of use of high acyl gellan gum or the combination of high and low acyl gellan gums in a starch, plasticizer composition. The composition of Chang et al is quite different from both Gilleland et al and Winston et al. Furthermore, the composition of Chang et al is used to prepare elastic gels and not films or soft shell capsules.

Accordingly, there is no teaching or suggestion of combining or how to combine Gilleland et al, Winston et al and Chang et al to make the invention as being claimed obvious.

Claims 20-22 have been rejected under 35 USC 103 (a) as being unpatentable over Gilleland et al (US 6,375,981) in view of Liu et al (US 6,303,290).

Gilleland et al is discussed above. Liu et al discloses the encapsulation of biomaterials in porous glass-like matrices prepared by a colloidal sol-gel process. The reference does disclose the use of colloidal particles for biomolecule encapsulation. However, this reference and its teachings are quite distinct from Gilleland et al which involves a different system. There is no suggestion of how to combine the references to make the claimed starch, plasticizer and high/low acyl gellan composition in shell capsules obvious. Reconsideration and withdrawal of this rejection is respectfully requested.

In view of the above amendments and remarks, it is submitted that the application is in proper form and the claims patentable over the references cited. Allowance of this application is earnestly solicited.

Respectfully submitted,

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